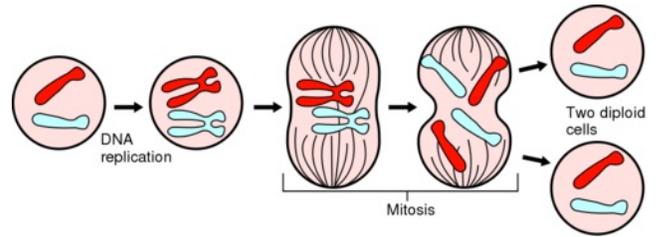
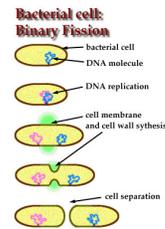


# Asexual reproduction



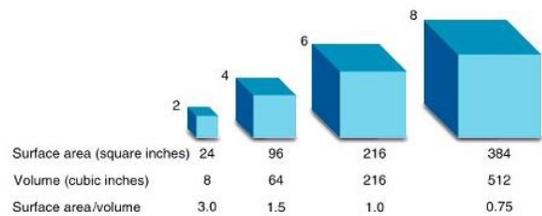
process by which a single parent reproduces by itself; offspring genetically identical to parent

# Binary fission



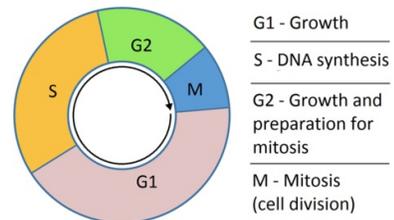
means "division in half," type of asexual reproduction (example: prokaryotes/bacteria)

# Surface area-to-volume ratio



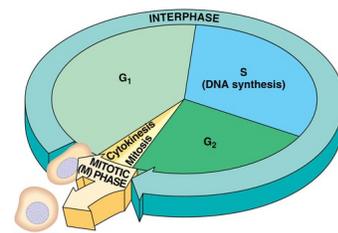
this decreases as a cell grows so it limits the size a cell can be

# Cell cycle



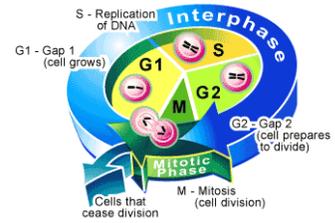
series of events that cells go through as they grow and divide

# Interphase



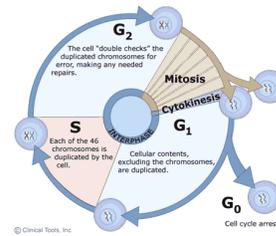
period of the cell cycle between cell divisions; includes G<sub>1</sub>, S, & G<sub>2</sub> phases

G1 phase



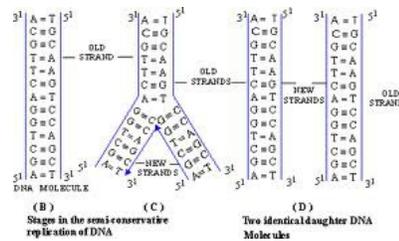
period of cell growth

S phase



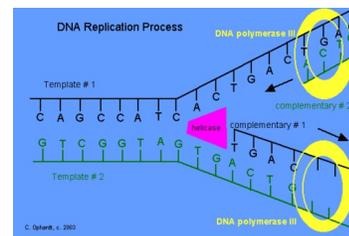
period where DNA replication occurs

DNA replication



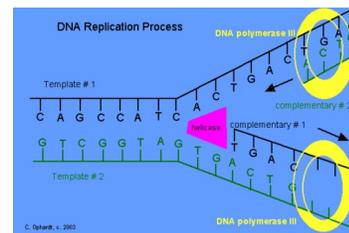
to make a copy of an organism's DNA

Template strands



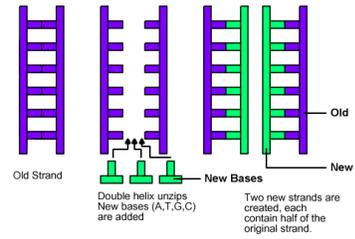
the original parent DNA strands

Complimentary strands



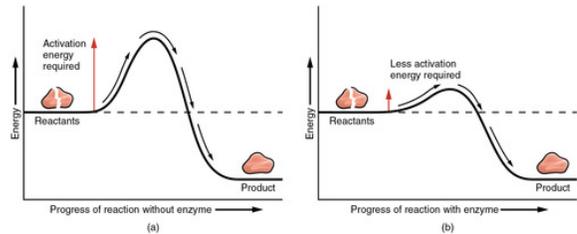
the new daughter DNA strands

Semiconservative



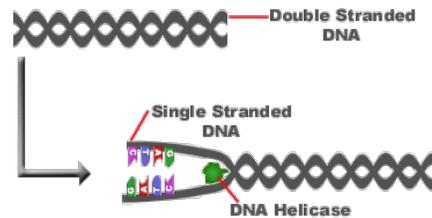
term meaning that a DNA molecule has 1 old strand and 1 new strand

Enzyme (-ase)



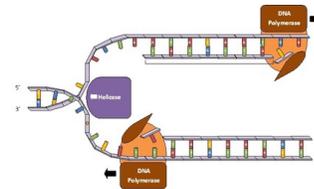
speed up chemical reactions such as DNA replication by lowering the activation energy

Helicase



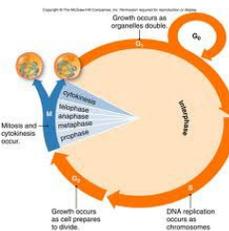
enzyme that unzips DNA by breaking the hydrogen bonds between the nitrogenous bases; it "cracks" the code...get it! :)

DNA polymerase



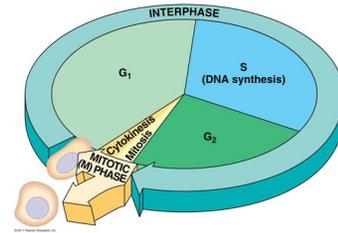
enzyme that adds new nucleotides to each original strand

G2 phase



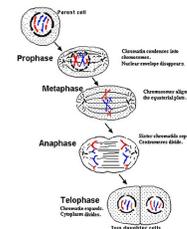
cell prepares, or gets ready, for cell division

# M phase/Cell division



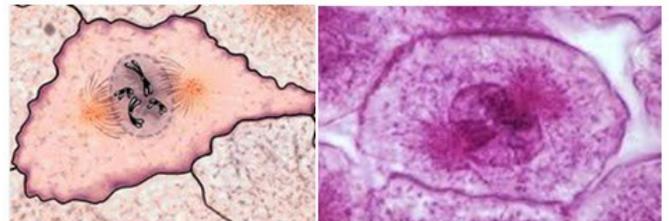
## mitosis and cytokinesis in eukaryotic cells

### Mitosis



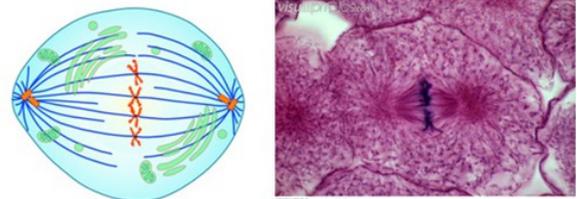
part of eukaryotic cell division during which the cell nucleus divides (nuclear division)

### Prophase



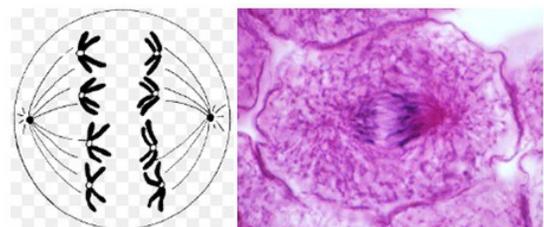
first and longest phase of mitosis; chromosomes become visible and nuclear envelope breaks down

### Metaphase



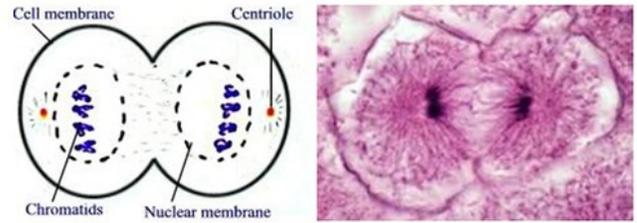
second phase of mitosis; chromosomes line up across the center of the cell

### Anaphase



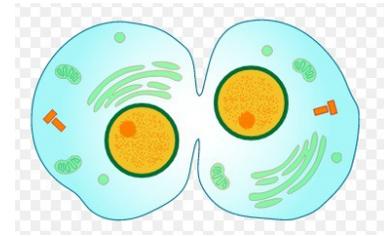
third phase of mitosis; chromosome pairs separate and move toward opposite poles

# Telophase



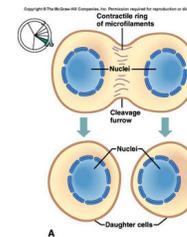
fourth and final phase of mitosis; chromosomes uncoil and two new nuclear envelopes form

# Cytokinesis



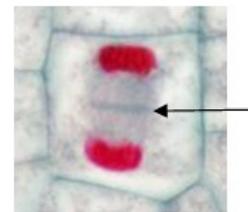
division of the cytoplasm during cell division (cytoplasmic division)

# Cleavage furrow



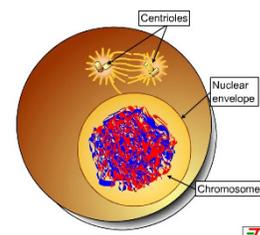
where cytoplasm pinches in during cytokinesis (animal cells)

# Cell plate



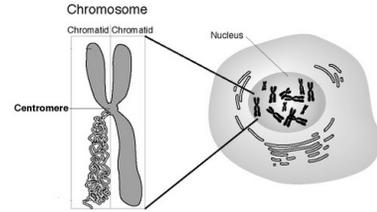
structure that divided the cytoplasm in plant cells during cytokinesis

# Centriole



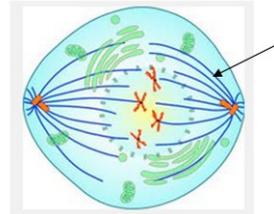
one of two tiny structures located in the cytoplasm of animal cells near the nuclear envelope

Centromere



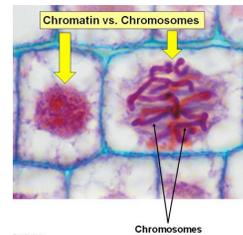
area where the chromatids of a chromosome are attached

Spindle



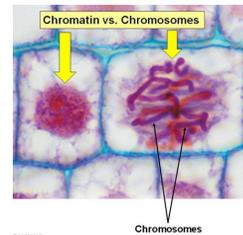
a fanlike system of microtubules that help separate the chromosomes during mitosis

Chromatin



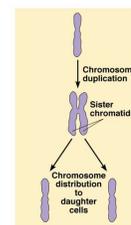
uncoiled DNA

Chromosome



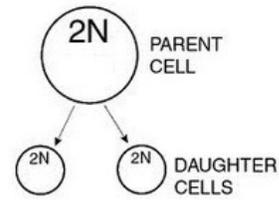
a strand of DNA that is visible because it is coiled up tightly

Sister chromatid (or chromatid)



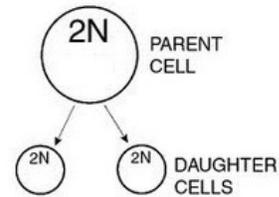
one of two identical "sister" parts of a duplicated chromosome

Parent cell



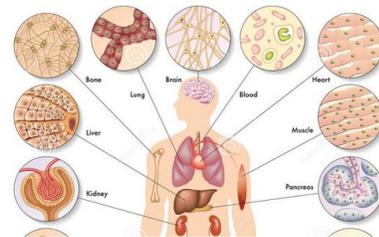
original cell

Daughter cells



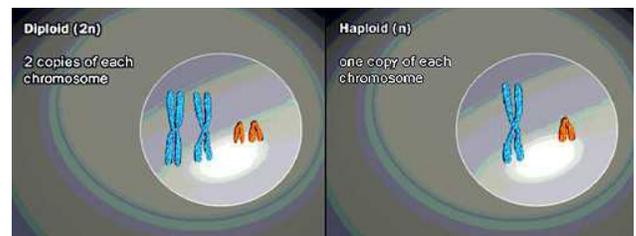
new cells

Somatic cells



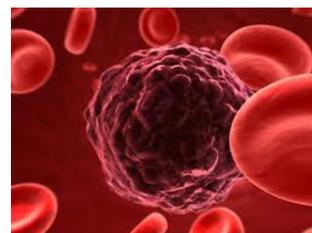
body cells (diploid 2N) - NOT sex cells like sperm/egg (haploid N)

Diploid (2N)



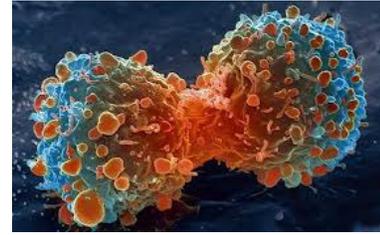
term used to refer to a cell that contains two sets of chromosomes (ex. humans  $2N = 46$ ; 23 from dad + 23 from mom) -NOT haploid (N)

Disease



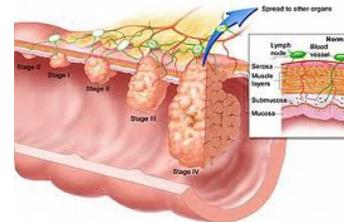
any change, other than an injury, that disrupts the normal functions of the body

# Cancer



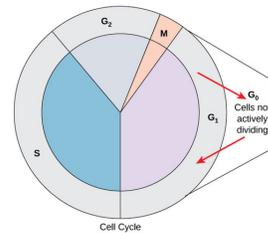
disorder in which some of the body's own cells cannot stop dividing; they have lost the ability to control the cell cycle

# Tumor



mass of growing tissue that may form when a cell or group of cells begins to grow and divide uncontrollably

# Go phase/G zero



resting phase; cancer cells CANNOT enter this phase